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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,632	12/14/2001	Jonathan F. Hester	56754US002	6407

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EXAMINER

VO, HAI

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,632

Applicant(s)

HESTER ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29,32,34-39,43-53,56 and 57 is/are pending in the application.
4a) Of the above claim(s) 37 and 43-53 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 29,32,34-36,38,39,56 and 57 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. All of the art rejections are withdrawn in view of the present arguments. There is no motivation to combine Insley et al (US 6,280,824) with Jensvold (US 6,153,097) to achieve the claimed invention (see Applicants' arguments at page 9 of the 10/28/2005). However, upon further consideration, new grounds of rejections are made in view of Patent Application No. 10/437,799, Patent Application No. 10/438,090 and WO 99/65595.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 29, 32, 34-36, 38, 39, 56 and 57 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 5, 6, 9, 11 of copending Application No. 10/437,799. Although the

conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending Application No. 10/437,799 fully encompass the presently claimed subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claims 29, 32, 34-36, 38, 39, 56 and 57 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17 of copending Application No. 10/438,090. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending Application No. 10/438,090 fully encompass the presently claimed subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 29, 32, and 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language of claim 29 appears to be grammatically ambiguous so as not to clearly and accurately convey the spatial relationship of the claimed elements. The current phraseology is unclear as to how the layers are arranged.

The scope becomes unclear since it is not determinable what structure can fall within the scope of the claim. Various interpretation, including some radically different arrangements are possible but do not seem within the scope of the disclosed invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 29, 34, 35, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/65595 in view of Degen et al (US 4,954,256). US 6,514,412 to Insley et al is relied on as an equivalent form of WO 99/65595. Insley'412 teaches a separation device comprising multiple layers of separation media 62, 72 and 74 and a structured layer 57 as shown in figure 4. Insley '412 teaches the layers of the separation media made from a microporous membrane (column 5, lines 52-55). Layer 57 reads on Applicants' microporous membrane

while layer 72, 74 reads Applicants' microbial support layer. Insley '412 teaches the structured layer comprising a plurality of separate flow channels. Insley '412 discloses that the microporous membrane as a separation media is particularly suitable for gas/gas separation (column 14, lines 9-11). Insley '412 does not specifically disclose the microporous membrane being water impermeable and gas permeable. Degen, however, teaches a hydrophobic microporous membrane having been used widely in filtration of gases. Degen discloses the gas filter would be effective if the microporous membrane allows only gas to pass but will not allow drops of liquid such as steam condensate, pump oil droplets or other mists to penetrate and thereby block the pores of the filter (column 1, lines 20-35). Likewise, the hydrophobic membrane is gas permeable and water impermeable. Degen further discloses that the hydrophobic membrane with a pore size of 0.05 to 1 micron having the entire surface treated with a fluoropolymer coating to avoid penetration of the pores by drops of liquid such as steam condensate, pump oil droplets or other mists with which the microporous membrane comes in contact when in use (column 3, lines 3-14). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hydrophobic microporous membrane having the entire surface treated with a fluoropolymer coating for the separation media of the Insley '412 invention motivated by the desire to avoid penetration of the pores by drops of liquid such as steam condensate, pump oil droplets or other mists with which the microporous membrane comes in contact during the filtration.

10. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/65593 in view of Degen et al (US 4,954,256) and Kulprathipanja et al (US 5,127,925). Insley '412 as modified by does not specifically disclose the separation media comprising a microporous membrane loaded with a filler. Kulprathipanja, however, discloses that the microporous membrane for use in gas separation, contains inorganic fillers to alter the separation factors of polymeric material and to provide a desired selectivity factor (column 7, lines 15-25, 35-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use inorganic fillers in the microporous membrane motivated by the desire to alter the separation factors of polymeric material and to provide a desired selectivity factor.
11. Claims 32 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/65595 in view of Degen et al (US 4,954,256) as applied to claim 29, further in view of WO 99/65593. Insley '412 does not teach the gas delivery layer having two sides each having a plurality of walls forming flow channels through which gas can be conveyed and giving gas permeable, water impermeable layers on both sides of the gas delivery layer. WO '593 teaches a filtration medium having a flow channel layer having two sides each having a plurality of walls forming flow channels through which gas can be conveyed and giving gas permeable, water impermeable layers on both sides of the flow channel layer as shown in figure 11. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the flow channel

layer having the structure as shown in the WO '593 invention motivated by the desire to provide versatility and adaptability to meet any filtration requirement.

12. Claims 29, 34, 35, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/65595 in view of Wang et al (US 6,355,081). US 6,514,412 to Insley et al is relied on as an equivalent form of WO 99/65595. Insley'412 teaches a separation device comprising multiple layers of separation media 62, 72 and 74 and a structured layer 57 as shown in figure 4. Insley '412 teaches the layers of the separation media made from a microporous membrane (column 5, lines 52-55). Layer 57 reads on Applicants' microporous membrane while layer 72, 74 reads Applicants' microbial support layer. Insley '412 teaches the structured layer comprising a plurality of separate flow channels. Insley '412 discloses that the microporous membrane as a separation media is particularly suitable for gas/gas separation (column 14, lines 9-11). Insley '412 does not specifically disclose the microporous membrane being water impermeable and gas permeable. Wang, however, teaches a hydrophobic microporous membrane having been used widely in filtration of gases. Wang discloses the gas filter would be effective if the microporous membrane allows only gas to pass but will not allow drops of liquid such as steam condensate, pump oil droplets or other mists to penetrate and thereby block the pores of the filter (column 1, lines 5-15). Likewise, the hydrophobic membrane is gas permeable and water impermeable. Degen further discloses that the hydrophobic membrane with a pore size of 0.2 microns having the entire surface treated with a polydimethylsiloxane coating to

avoid penetration of the pores by drops of liquid such as steam condensate, pump oil droplets or other mists with which the microporous membrane comes in contact when in use (example 3). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hydrophobic microporous membrane having the entire surface treated with a polydimethylsiloxane coating for the separation media of the Insley '412 invention motivated by the desire to avoid penetration of the pores by drops of liquid such as steam condensate, pump oil droplets or other mists with which the microporous membrane comes in contact during the filtration.

13. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/65593 in view of Wang et al (US 6,355,081) and Kulprathipanja et al (US 5,127,925). Insley '412 as modified by does not specifically disclose the separation media comprising a microporous membrane loaded with a filler. Kulprathipanja, however, discloses that the microporous membrane for use in gas separation, contains inorganic fillers to alter the separation factors of polymeric material and to provide a desired selectivity factor (column 7, lines 15-25, 35-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use inorganic fillers in the microporous membrane motivated by the desire to alter the separation factors of polymeric material and to provide a desired selectivity factor.

14. Claims 32 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/65595 in view of Wang et al (US 6,355,081) as applied to claim 29,

further in view of WO 99/65593. Insley '412 does not teach the gas delivery layer having two sides each having a plurality of walls forming flow channels through which gas can be conveyed and giving gas permeable, water impermeable layers on both sides of the gas delivery layer. WO '593 teaches a filtration medium having a flow channel layer having two sides each having a plurality of walls forming flow channels through which gas can be conveyed and giving gas permeable, water impermeable layers on both sides of the flow channel layer as shown in figure 11. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the flow channel layer having the structure as shown in the WO '593 invention motivated by the desire to provide versatility and adaptability to meet any filtration requirement.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV



HAI VO
PRIMARY EXAMINER